AMENDMENTS TO THE CLAIMS

Claims 1-19 (Canceled)

Claim 20 (Currently Amended): A phase-change memory cell comprising:

between two electrical contacts, a portion in a memory material with an amorphous-crystalline phase-change and vice versa, as a stack with [[a]] an active central area located between two passive outmost areas; and

an interface ~~, inert or quasi-inert from a physico-chemical point of view,~~ between the active central area and each passive outmost area, each passive outmost area being made in a material having a melting temperature higher than that of the material of the active central area, the material of the passive outmost areas having very low solubility or zero solubility in the material of the active central area, the material of the passive outmost areas having at least one chemical element in common with the material of the active central area, ~~the passive outmost areas being made in the same material~~ the interface being inert or quasi-inert from a physico-chemical point of view even during a writing operation of the phase-change memory cell.

Claim 21 (Previously Presented): The phase-change memory cell according to claim 20, wherein each passive outmost area is made in a material having a thermal conductivity less than or equal to that of the material of the electrical contact which is closest to it.

Claim 22 (Previously Presented): The phase-change memory cell according to claim 20, wherein the passive outmost areas have, in a crystalline phase, an electrical resistance less than or equal to that of the active central area in a crystalline phase.

Claim 23 (Previously Presented): The phase-change memory cell according to claim 20, wherein each passive outmost area is made in a material promoting a phenomenon of formation of crystalline germs in the active central area in proximity to the interface.

Claim 24 (Previously Presented): The phase-change memory cell according to claim 20, wherein each passive outmost area is made in a material substantially of the same chemical nature but with a different composition from those of the material of the active central area.

Claim 25 (Previously Presented): The phase-change memory cell according to claim 24, wherein the material of the active central area includes between about 16% and 30% of tellurium and between about 84% and 70% of antimony, the material of each passive outmost area being antimony or antimony mixed with tellurium with a percentage ranging up to about 2%, these percentages being atomic percentages.

Claim 26 (Withdrawn): The phase-change memory cell according to claim 20, wherein each passive outmost area is made in a material which is of a chemical nature different from that of the material of the active central area, this material having very low solubility in the material of the active central area.

Claim 27 (Withdrawn): The phase-change memory cell according to claim 26, wherein the material of the active central area is $Ge_2Sb_2Te_5$ and the material of each passive outmost area is GeN.

Claim 28 (Canceled)

Claim 29 (Previously Presented): The phase-change memory cell according to claim 20, further comprising an electrically insulating material, wherein the active central area is at least partially confined laterally by the electrically insulating material.

Claim 30 (Withdrawn): The phase-change memory cell according to claim 20, wherein at least one of the passive outmost areas laterally overlaps the active central area.

Claim 31 (Previously Presented): The phase-change memory cell according to claim 20, wherein at least one of the passive outmost areas and the active central area coincide laterally.

Claim 32 (Previously Presented): The phase-change memory cell according to claim 20, further comprising an electrically insulating material, wherein at least one of the passive outmost areas is bordered with the electrically insulating material.

Claim 33 (Previously Presented): A memory including a plurality of memory cells according to claim 20.

Claim 34 (Withdrawn): A method for making at least one phase-change memory cell including, between a first and second electrical contact, a portion in a memory material with amorphous-crystalline phase-change and vice versa, with a central area located between first and second outmost areas, the method comprising:

a) making the first electrical contact on a substrate;

b) making on the first electrical contact, the first passive outmost area, the active central area, and the second passive outmost area, these areas forming a stack with an interface, inert or quasi-inert from a physico-chemical point of view, between each passive outmost area and the active central area which is more meltable than the passive outmost areas, the material of the outmost areas having very low solubility or zero solubility in the material of the active central area;

c) achieving at least partial lateral confinement of at least the active central area with an electrically insulating material; and

d) making the second electrical contact on the stack.

Claim 35 (Withdrawn): The method according to claim 34, wherein the electrically insulating material laterally also confines at least one of the passive outmost areas.

Claim 36 (Withdrawn): The method according to claim 34, wherein b) and c) include, after having made the first passive outmost area:

depositing the electrically insulating material leading to the lateral confinement, on the first passive outmost area,

excavating a well in the electrically insulating material, this well having a bottom reaching the first passive outmost area,

filling the well with a layer leading to the active central area, and

making the second passive outmost area above the well.

Claim 37 (Withdrawn): The method according to claim 34, wherein b) and c) include:

depositing on the first electrical contact, a first layer leading to the first passive outmost layer,

depositing on the first layer, a second layer leading to the active central area,

depositing on the second layer, a third layer leading to the second passive outmost layer,

delimiting as a column, the three deposited layers to form the stack, and

laterally coating the stack with an electrically insulating confinement material, this material leading to confinement.

Claim 38 (Withdrawn): The method according to claim 34, wherein b) and c) include:

depositing on the first passive outmost layer, a layer leading to the active central area,

delimiting the active central area,

laterally coating the active central area with an electrically insulating material, this material leading to confinement, and

making the second passive outmost area on the active central area.

Claim 39 (Previously Presented): The phase-change memory cell according to claim 20, wherein each passive outmost area is made in a material having a thermal conductivity less than or equal to that of the material of the active central area.

Claim 40 (New): The phase-change memory cell according to claim 20, wherein

each interface is directly between the active central area and one of the two passive outmost areas; and

the material of the active central area has undergone a phase change.